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ANDERSON, KILL & OLICK, P.C. 1251 AVENUE OF THE AMERICAS NEW YORK, NY 10020-1182			EDWARDS, PATRICK L	
			ART UNIT	PAPER NUMBER
			2621	

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/771,214

Applicant(s)

CHITRADON ET AL.

Examiner

Patrick L. Edwards

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-22 and 24-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-22 and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. The response received on 08-29-2005 has been placed in the file and was considered by the examiner. An action on the merits follows.

Response to Arguments

2. The arguments filed on 08-29-2005 have been fully considered. A response to these arguments is provided below.

37 CFR 1.75 Claim Objections

Summary of Argument:

(a) Regarding the objection to part (j) of the claim, applicant submits that the geographical elements (i.e. river, street, building, etc.) are modified into vector data and stored in the spatial database (remarks, pg. 16, 3rd paragraph).

(b) Regarding the objection to the term "spatial information": Applicant alleges that "In view of the amendment to the independent claims, the term "spatial information" is now believed to be used correctly." (remarks, pg. 16, final paragraph). Specifically, applicant states that geographical map images (raster data) are stored in the "geographical map image database, and that geographical elements (vector data) are stored in the "spatial database." (see remarks, pg. 17, 1st and 2nd paragraphs).

Examiner's Response:

(a) Applicant's statement is not pertinent to the issue raised in the objection.

(b) The examiner agrees with the statements made by the applicant, but these statements are not pertinent to the interpretation of the phrase "spatial information." Accordingly, the arguments are not persuasive.

Prior Art Rejections

Summary of Argument:

(a) Applicant alleges that "The data in Barros' topical database are layers of raster data of geographical elements that are not modified into vector data." (remarks, pg. 17, final paragraph).

Examiner's Response:

(a) Applicant's arguments are unpersuasive. A thorough explanation as to how the Barros reference meets this "vector data" limitation was provided in the previous rejection and will be repeated in the below rejection.

Examiner Suggestions

3. Claims 1, 14, 15, and 28 would read more clearly with the correction of the following two informalities:

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Steps (b-f) refer to both “wavelet data stream” and “wavelet data format stream.” While it appears that these two phrases are referring to the same thing, it would clear up confusion if the claims were amended to use only one of these phrases, not both.

Appropriate correction is requested.

Claim Objections

4. The follow quotations of 37 CFR § 1.75(a) and (d)(1) provide the basis of objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

(d)(1) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. (See § 1.58(a)).

5. Claims 1-8, 10-22, and 24-28 are objected to under 37 CFR § 1.75(a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery.

Referring to part (j) of the independent claims, the metes and bounds of the phrase “retrieving information from said spatial database using metadata and geocode of the coordinate related with the geographical elements on the vector data” are not clear. Specifically, it isn’t clear whether ‘on the vector data’ is referring to the coordinate or the geographical element. If this phrase is meant to modify the geographical element, then it isn’t clear how a geographical element could be “on the vector data.” Does this mean that the geographical element would be stored as vector data? Alternatively, if the phrase is meant to modify “metadata and geocode of the coordinate,” then the applicant should amend the claim to add commas necessary to show that distinction. If this is meant to be the case, then it isn’t clear how metadata and geocode of a coordinate is retrieved “on the vector data.” Does this mean that the metadata and geocode of a coordinate is retrieved from the vector data?

For interpretation purposes, it will be assumed that “on the vector data” is meant to modify the “metadata and geocode of the coordinate,” since this interpretation appears to be more consistent with applicant’s disclosure than the alternative.

Referring to part (j), the phrase “vector data; data, said spatial database...” is non-sensical.

Referring to part (l) of the independent claims, the term “geographical information” is unclear. Is this referring to the vector data (stored in the spatial database), or the geographical raster maps stored in the geographic raster map image database?

Referring to the independent claims as a whole, the metes and bounds of term “spatial information” are not clear. Parts (a) – (f) recite raster map or satellite images—which can be interpreted as spatial information. Part (g), however, expressly differentiates the “raster image” from “spatial information.” Thus, it is unclear what “spatial information” is referring to. The metes and bounds of the term are unclear.

Furthermore, the term “spatial information” is used inconsistently throughout the entire claim. The claim differentiates raster images (which are stored in the geographical map image database) from vector data (which are

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stored in the spatial database), but associates the term “spatial information” with both of them (e.g. in parts (g) and (k)). As a result, there are several lingering questions about the claimed term. For instance, is “spatial information” the same thing as vector data or raster map image data--which have at least been clearly differentiated from each other--or a totally separate type of data? Where is it stored? In looking to the specification for guidance, it appears that the claims should recite “spatial information and map viewer” and “spatial information and map editor”, instead of “spatial information and a map viewer” and “spatial information and a map editor.” Given the former interpretation, the claim would make much more sense because the editor and viewer would then represent single entities for either displaying or editing maps and spatial information. Of course, this still leaves the sticky question of what is spatial information? Is it vector data or raster image data? But this is still better than the latter interpretation. Given this latter interpretation—which corresponds to the claims as currently written—there is no nexus between the spatial information and the map editor or view. Consequently, “spatial information” is even less definite.

In view of the above analysis, the claim will be interpreted to read “spatial information and map editor” and “spatial information and map viewer” instead of the alternative. Appropriate correction is required.

Also, “spatial information” as recited in part (g) lacks antecedent basis.

Referring to parts (i), (j), and (k) of the independent claims, the metes and bounds of the term “information” are unclear as currently recited. Part (j) recites retrieving information from the ‘spatial database.’ This is the same ‘spatial database’ that is dedicated to storing only vector data. Logically, any information retrieved from the spatial database is therefore vector data. Contrary to this logic, the claims expressly differentiate “information” from “vector data”—even though both are supposedly retrieved from a database containing only vector data--in parts (i) and (j), and in part (k). These contradictory limitations cannot co-exist. The dependent claims are rejected because of their dependency on the aforementioned independent claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama (US Patent 6,430,498 B1) in view of Budge (US Patent Publication 2002/0080408 A1), Ogawa (USPN 5,864,632), Ratnakar (USPN 6,278,432 B1), Yonezawa (USPN 6,542,191 B1), and Barros (USPN 6,307,573).

Regarding claim 1:

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As applied to step (a), Maruyama discloses retrieving geographical map images from an image storage database (col. 3 lines 35-65: The reference describes retrieving maps from a spatial information database).

As applied to steps (b)-(f), Maruyama discloses compressing data (col. 3 lines 49-52), and then sending it to the client side (col. 9 lines 5-27 with figure 9: The reference describes transmitting map information to a portable terminal (i.e. the client side)).

As applied to step (g), Maruyama discloses displaying raster images using one of either spatial information and a map viewer or spatial information and a map editor (col. 3 lines 50-64: The reference describes a portable terminal which is analogous to a map viewer as recited in the claim because it displays the spatial information (or "entire map data" as stated on line 61 of column 3)).

As applied to step (h), Maruyama discloses sending queries to a spatial database based on user requirement (col. 5 lines 30-39 in conjunction with Figure 2: The retrieving conditions set by the user and shown in element 103 of Figure 2 as control input, are analogous to queries as recited in the claim).

As applied to step (i), Maruyama discloses retrieving vector data comprising of geographical elements from the database (col. 5 line 63 – col. 6 line 5: The retrieval of a route between a present place and a destination as disclosed in Maruyama is analogous to vector data comprising of geographical elements as recited in the claim in that data corresponding to distance and direction to a location is retrieved. This is further shown on lines 45-51 in column 6 of Maruyama).

As applied to step (j), the claim recites retrieving information from a spatial database using metadata and geocode of the coordinate related with the geographical elements on the vector data. In this particular environment, the term metadata simply means data that provides information about the image data that is being retrieved. Maruyama discloses using metadata in the retrieval of map information corresponding to a certain location (col. 5 line 48 – col. 6 line 4: The location information, direction information and retrieval conditions as disclosed in Maruyama are all analogous to metadata as recited in the claim in that they are providing information about the image data being retrieved). Further, the geocode of a coordinate is defined as the demographic characterization of that particular locality. Maruyama discloses retrieving information about the movies, entertainment, business events, restaurants, etc. that corresponded to a particular locality (col. 3 lines 47-49).

As applied to step (l), Maruyama discloses a management information system (col. 9 lines 14-18 and Figure 9: The database management system disclosed in Maruyama is analogous to the management information system as recited in the claim). Although Maruyama does not expressly disclose that geographical information is stored in the management information system, any database management system would have to store geographical information in order to successfully serve the purpose of managing the database. Consequently, the storing of geographical information is inherent in the functioning of the management information system.

As applied to step (m), Maruyama discloses a spatial database that stores vector data (col. 9 lines 24-25: The map information as disclosed in Maruyama is analogous to vector data as recited in the claim).

As applied to step (n), Maruyama further discloses storing geographical map information (col. 3 lines 45-48).

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The step (o)(a) limitation was discussed with respect to step (g) above.

The step (o)(c) limitation was discussed with respect to step (h) above.

The Maruyama fails to teach several elements required by the claim. The Maruyama deficiencies are as follows:

(A) Maruyama does not disclose that the geographical map images contain individual raster images of the map divided from the whole sheet or satellite image. This limitation is recited at step (a) of the claim.

(B) Maruyama does not disclose the compression and transmission method required by steps (b)-(f).

(C) Maruyama does not disclose two separate databases (geographical map image storage database; spatial database) for storing two separate kinds of data (geographical raster map or satellite data; vector data). This limitation is recited in steps (a), (j), (m), and (n).

(D) Maruyama does not disclose using a spatial information and map editor to edit information or vector data. This limitation is recited at step (k).

(E) Maruyama does not disclose the zooming and panning functions required by step (o)(b).

Referring to deficiency (A), Maruyama fails to expressly disclose that the geographical map images contain individual raster images of the map divided from the whole map sheet or satellite image. Ratnakar, however, discloses retrieving individual raster images of the map divided from the whole map sheet or satellite image (Ratnakar column 3 line 53 - column 4 lines 7). The portion of an image or image "tile" as disclosed in Ratnakar is analogous to the individual raster images as recited in the claim. It would have been obvious to one reasonably skilled in the art at the time of the invention to combine the retrieving of portions of a larger map as taught by Ratnakar with Maruyama's method of retrieving map information based on location (Maruyama column 4 lines 6-9). Such a modification would have allowed for a method of only retrieving the map information that the user requires and therefore transmitting only the required amount of data across the network. This would have made for a more efficient and modular system.

Referring to deficiency (B), Maruyama fails to expressly disclose the compression and transmission method required by steps (b)-(f) of the claim. Maruyama generally describes the compression of the image data and then the transmission of that image data over a network to the client side, but fails to teach all the required limitations. Budge, on the other hand, discloses a method for compressing images for the purpose of transmission over a network and then reconstructing the image at the remote location (Budge paragraph 34 lines 1-7). Budge discloses transforming raster images into wavelet data stream, which is completely retransformable back to the original raster images (Budge paragraph 34 line 7 - paragraph 35 line 4). Budge also discloses compressing the wavelet data format stream into the compressed data stream so that the raster data is separated into layers and compressed (Budge paragraph 36 lines 4-11) and then transmitting the compressed data stream over a network to the client side (Budge paragraph 34 lines 5-7). Budge also discloses decompressing the compressed data stream into wavelet data stream and then retransforming the wavelet data stream into the raster images (Budge paragraph 88 in conjunction with Figure 8). It would have been obvious to one reasonably skilled in the art at the time of the invention combine the method of transforming an image into wavelet data, compressing the wavelet data, transmitting the compressed data over a network, decompressing the data into wavelet data and then retransforming the wavelet data back into image

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data as taught by Budge with Maruyama's broadly stated compression and transmission system. Such a modification would have allowed for a fast, efficient method of compressing image data (Budge paragraph 10 lines 6-10) that is well known in the art as a way to speed up the transmission of image data over a network (Budge paragraph 4).

Referring to deficiency (C), Maruyama fails to disclose the limitation of two separate data bases (i.e. a spatial database for storing vector data and a geographical map image storage database for storing geographical map images). Maruyama simply describes a single spatial database for storing spatial information. Barros, on the other hand, discloses a base map database which stores the base map elements (col. 11 lines 33-35). This base map database disclosed in Barros is analogous to geographical map image database recited in the claims.

Barros further discloses a topical database which stores the topical layer information (Barros col. 11 lines 38-40). This topical layer information comprises geographical elements such as rivers, streets, parks, etc. (Barros col. 11 lines 28-31) The reference describes the aforementioned geographical elements, but does not refer to them as "vector data." This is irrelevant. "Vector data" is a broad term, and the information in the Barros topical layer database qualifies as vector data for several reasons. First of all, the topic layer database is comprised of one-dimensional arrays (as can be seen at figure 2b and elsewhere throughout the disclosure). One of the art accepted definitions of the word 'vector' is a one-dimensional array. Since the database is comprised of one-dimensional arrays, it qualifies as the claimed 'vector data'. Additionally, Barros discloses that the database is filled with geographical elements. Applicant aptly stated that "All geographical elements must be converted into vector data to enable the computer to calculate the relationship between each geographical element (applicant's remarks pg. 19 and elsewhere). This statement nicely illustrates that vector data—though not expressly stated in the disclosure—is implicitly disclosed in the teachings. Accordingly, the topical database disclosed in Barros qualifies as the spatial database recited in the claims. It would have been obvious to one reasonably skilled in the art at the time of the invention to section off the Maruyama's single database into two separate databases as taught by Barros. Such a modification would have allowed for a more optimized system that organized complex information sets and to provide information to the user in a faster and more comprehensible manner (Barros col. 4 lines 11-14 and 47-52).

Referring to deficiency (D), Maruyama fails to expressly disclose means for editing information or vector data using spatial information and a map editor. Ogawa, however, discloses editing map information using spatial information and a map editor (col. 2 lines 8-14). The image obtained by imaging the area as disclosed in Ogawa is analogous to spatial information as recited in the claim. It would have been obvious to one reasonably skilled in the art at the time of the invention to combine the map editor as taught by Ogawa with Maruyama's map viewing and navigation system. Such a modification would have added the extra functionality to Maruyama's system by allowing the map image data to be altered as well seen and utilized. This would have made for a more dynamic system that could be updated to keep all the information current (Ogawa col. 1 lines 57-61).

Referring to deficiency (E), Maruyama fails to expressly disclose the limitation recited in step (o)(b) that the user controls the zooming and panning of the image. Maruyama discloses that the user controls conditions related to the display of map image data, but does not expressly mention zooming and panning as possible functions.

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Yonezawa, however, discloses receiving user input (the user inputs information using various buttons as described on column 6 lines 55-57 of Yonezawa) to control the zooming and panning of a map image. It would have been obvious to one reasonably skilled in the art at the time of the invention to combine the user controlled panning and zooming functions as taught by Yonezawa with the user controlled map display system taught by the Maruyama. Such a modification would have added an extra feature to a map display system and would have made such a system more robust, operable, user friendly and generally useful (Yonezawa col. 1 lines 40-42).

Regarding claim 15:

The combination of Maruyama, Barros, Budge, Ogawa, Ratnakar, and Yonezawa further discloses a means for performing the steps of the method (see e.g. figures 9 and 10 of Maruyama).

Regarding claim 28:

The combination of Maruyama, Barros, Budge, Ogawa, Ratnakar, and Yonezawa further discloses that the spatial information and map editor is an apparatus (see Ogawa col. 2 line 9).

Regarding claim 14:

The combination of Maruyama, Barros, Budge, Ogawa, Ratnakar, and Yonezawa further discloses the editing of map data, allows for a user to change query information, discloses a management information system, a spatial database and a geographical map image storage. The further limitations are all inherent given a system such as this. The changed user information would have to be stored in the management information system because the management information system determines what image data is sent to the user for display. In addition, the changed vector data would have to be stored in the spatial database since the spatial database is responsible for storing the vector data portion of the image. Further, the new geographical image map data would have to be stored in the geographical map image storage given that the geographical map image storage is responsible for storing this portion of the image.

Regarding the dependent claims:

With regard to claims 2 and 16, Murayama discloses a geographical map in the form of map information (Murayama column 3 line 46). This is a form of a map.

With regard to claims 3 and 17, Budge discloses a wavelet transformation used to transform a map into various resolutions (Budge paragraph 9 lines 8-9).

With regard to claims 4 and 18, the claim recites that the various resolution maps can be filtered for only the desired resolution. Given a system with a map viewer that displays an image at a given resolution and a wavelet transform used to transform a map into various resolutions, the filtering of the various resolution maps for only the desired resolution is inherent.

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With regard to claims 5 and 19, Budge further discloses that filtered maps are compressed by using compression algorithms (Budge paragraph 52).

With regard to claims 6 and 20, Maruyama further discloses using an internet network to transfer compressed data (Maruyama element 65 of Figure 9).

With regard to claim 7 and 21, Budge further discloses the decompression of compressed data into wavelet data format (Budge paragraph 88).

With regard to claims 8 and 22, Budge further discloses that wavelet format data is retransformed into a digital image such as a geographical map (Budge paragraph 88).

With regard to claims 10 and 24, steps (a) and (d) have already been addressed above. The claim further recites storing map geocode that links to the information in the MIS. The use of geocode has already been addressed with respect to claim 1. Arguments have also been made above with respect to a spatial information database that stores data such as geocode and an MIS (referred to as database management system in Maruyama) that manages the information stored in the spatial database. As a result, geocode stored in a spatial database inherently links to the information in the MIS. In addition, sending geocode to the MIS information is also inherent in such a system.

With regard to claims 11 and 25, the use of metadata in the retrieval of information from the spatial database has been addressed with respect to step (j) of claim 1.

With regard to claims 12 and 26, it is well known in the art that the term "metadata" refers to data which explains the meaning of data as well as its logical structure. This has been addressed above with respect to step (j) of claim 1.

With regard to claims 13 and 27, the claim recites that the required data is compressed and sent back to the client. The compression of data for the purpose of sending the data to a client has been addressed above with respect to claim 1.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hsu et al. (USPN 6,512,857)
- Jongerius (USPN 6,563,529)

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period,

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then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (571) 272-7390. The examiner can normally be reached on 8:30am - 5:00pm M-F.

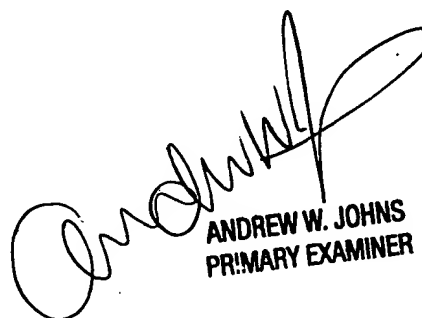
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe Mancuso can be reached on (571) 272-7695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick L Edwards

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ANDREW W. JOHNS
PRIMARY EXAMINER